

## Morphological typology of small catchments in river basins on cultivated plains

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### Abstract

Small catchments were classified with four morphometric characteristics that determine the relief energy: mean altitude, vertical relief, drainage density and average slope. Classification was produced using the Ward's method and elementary catchment as a basic spatial unit. The created typology allows to elaborate recommendations on spatial distribution of crops aimed at reduction of soil erosion rates and the amounts of sediments yielded from slopes to channels of perennial and intermittent streams. The elaborated methodology was tested in the upper Medveditsa River basin (the Don River system). Six classes of elementary catchments were designated and ranked according to the relief energy. The compiled map of small catchment types may be applied for the improvement of land use practice and planning of crop rotation with respect to soil protection efficiency.

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### Keywords

Erosion, Soil erosion, Sub-basin, Ward's method

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